

REMARKS:

In the outstanding Office Action, the Examiner rejected claims 11-30. Claims 11, 15, 19, 23 and 27-30 are amended herein. No new matter is presented. Thus, claims 11-30 are pending and under consideration. The rejections are traversed below.

REJECTION UNDER 35 U.S.C. § 102(e):

Claims 28-30 were rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,049,860 (Krygowski).

Krygowski maintains data of each of the instructions that exist in pipeline stages for forming control signals to a dataflow pipeline (see, column 3, lines 41-44 and 49-52). In Krygowski, each control stage contains corresponding control information of the instructions and forms corresponding control signals for the respective instructions based on corresponding control information (see, column 4, line 47 through column 5, line 16). That is, Krygowski is limited to forwarding an instruction to a holding stage until data dependency of the instruction is resolved.

In contrast, the present invention selectively decodes or converts instructions for performing operations in a current processing stage or for passing through data to a next stage without requiring a holding circuit for holding the data to be passed through.

Independent claims 28-30 as amended recite that a processor execution pipeline method according to which "the first, second and all other instructions are selectively decoded based on whether operations are to be performed thereto in a current processing stage or passed through data to a next stage".

Unlike the Krygowski system for processing floating point store instructions in a floating point pipeline directed to improving data dependency (see, column 4, line 47 through column 5, line 16), according to the processor execution pipeline of the present invention, "the first, second and all other instructions are selectively decoded based on whether operations are to be performed thereto in a current processing stage or passed through data to a next stage".

Therefore, withdrawal of the rejection is respectfully requested.

REJECTION UNDER 35 U.S.C. § 103(a):

Claims 11-27 were rejected under 35 U.S.C. § 103(a) as being unpatentable over the combination of Krygowski and Texas Instrument's Semiconductor Service Support (TI).

The combination of Krygowski and TI is limited to processing store instructions using information of the instructions in each pipeline stage to form control signals to control progression of the respective instructions through the stages (Krygowski), where the system has a decoder to convert information into a format readily understood by the system (TI).

As recited in amended independent claims 11, 15, 19, 23 and 27, a processor execution pipeline of the present invention instructions are "selectively decoded based on whether operations are to be performed thereto in a current processing stage or passed through data to a next stage". This, for example, enables the present invention to decrease unnecessary and redundant stage latching units by decoding one instruction into another to pass through data.

The combination of Krygowski and TI does not teach or suggest, instructions "selectively decoded based on a need to perform operations thereto in a current processing stage or to pass through data to a next stage", as recited in independent claims 11, 15, 19, 23 and 27.

It is submitted that the independent claims 11, 15, 19, 23 and 27 are patentable over the combination of Krygowski and TI.

For at least the above-mentioned reasons, claims depending from independent claims 11, 15, 19, 23 and 27 are patentably distinguishable over the combination Krygowski and TI. The dependent claims are also independently patentable. For example, the present invention includes a latching unit that holds the output of: "the first processing unit where the second data is data held by the latching unit" (claims 13 and 21), "the multiplexer, where the second data is data held by the latching unit" (claims 17 and 25). The combination of the Krygowski and TI does not teach or suggest these features recited in dependent claims 13, 17, 21 and 25.

Therefore, withdrawal of the rejection is respectfully requested.

CONCLUSION:

There being no further outstanding objections or rejections, it is submitted that the application is in condition for allowance. An early action to that effect is courteously solicited.

If there are any formal matters remaining after this response, the Examiner is requested

to telephone the undersigned to attend to these matters.

If there are any additional fees associated with filing of this Amendment, please charge the same to our Deposit Account No. 19-3935.

Respectfully submitted,

STAAS & HALSEY LLP

Date: _____

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By: _____


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